

**What Is Claimed Is:**

1. A method of separating traffic in a communication network,  
comprising:  
5 receiving a communication to be transmitted across a communication link;  
if said communication is a best-effort communication, transmitting said  
communication on a first channel of the communication link; and  
if said communication is a flow-controlled communication, transmitting  
said communication on a second channel of the communication link.

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2. The method of claim 1, wherein said communication is a flow-  
controlled communication if said communication is configured according to a  
communication protocol that provides flow control.

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3. The method of claim 1, wherein said communication is a best-  
effort communication if said communication is not configured according to a  
communication protocol that provides flow control.

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4. The method of claim 1, wherein:  
the communication network supports InfiniBand communications; and  
said first channel and said second channel comprise separate virtual lanes.

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5. The method of claim 1, wherein:  
the communication network supports Asynchronous Transfer Mode  
communications; and  
said first channel and said second channel comprise separate virtual  
circuits.

6. The method of claim 1, wherein:  
the communication network supports Ethernet communications; and  
said first channel and said second channel comprise separate classes of  
5 service.

7. A computer readable storage medium storing instructions that,  
when executed by a computer, cause the computer to perform a method of  
separating traffic in an electronic communication network, the method  
10 comprising:  
receiving a communication to be transmitted across a communication link;  
if said communication is a best-effort communication, transmitting said  
communication on a first channel of the communication link; and  
if said communication is a flow-controlled communication, transmitting  
15 said communication on a second channel of the communication link.

8. A method of separating network traffic, comprising:  
receiving a best-effort communication across a first channel of a  
communication link; and  
20 receiving a flow-controlled communication across a second channel of the  
communication link;  
wherein said flow-controlled communication is a communication  
configured according to a protocol that provides flow control.

9. The method of claim 8, wherein said first channel and said second  
channel comprise separate InfiniBand virtual lanes.

10. The method of claim 8, wherein said first channel and said second channel comprise separate ATM (Asynchronous Transfer Mode) virtual circuits.

11. The method of claim 8, wherein said first channel and said second  
5 channel comprise separate Ethernet classes of service.

12. A computer readable storage medium storing instructions that, when executed by a computer, cause the computer to perform a method of separating network traffic, the method comprising:

10 receiving a best-effort communication across a first channel of a communication link; and

receiving a flow-controlled communication across a second channel of the communication link;

15 wherein said flow-controlled communication is a communication configured according to a protocol that provides flow control.

13. A method of segregating network communications, comprising:

20 (a) identifying a first type of communication capable of conflicting with another type of communication if both types of communication share a communication channel;

(b) establishing a first channel over one or more communication links;

(c) configuring a device to transmit said first type of communication over said first channel;

25 wherein said first type of communication is capable of conflicting with a second type of communication if one of said first type of communication and said second type of communication tends to deprive the other of bandwidth.

14. The method of claim 13, wherein said first type of communication comprises a best-effort communication and said second type of communication comprises a flow-controlled communication.

5 15. The method of claim 14, wherein said flow-controlled communication is a communication formatted according to a protocol that supports flow control.

10 16. The method of claim 14, wherein said best-effort communication is a communication formatted according to a protocol that does not inherently support flow control.

17. The method of claim 14, further comprising:  
repeating steps (b) – (c) for said second type of communication.

15 18. The method of claim 13, wherein said first type of communication comprises UDP (User Datagram Protocol) communications and said second type of communication comprises TCP (Transport Control Protocol) communications.

20 19. The method of claim 13, wherein said first type of communication comprises a communication formatted according to a connectionless protocol and said second type of communication comprises a communication formatted accordingly to a connection-oriented protocol.

25 20. A computer readable storage medium storing instructions that, when executed by a computer, cause the computer to perform a method of segregating network communications, the method comprising:

(a) identifying a first type of communication susceptible to conflict with another type of communication if both types of communication share a communication channel;

(b) establishing a first channel over one or more communication links;

5 (c) configuring a device to transmit only said first type of communication over said first channel;

wherein said first type of communication is susceptible to conflict with a second type of communication if one of said first type of communication and said second type of communication tends to deprive the other of bandwidth.

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21. In a communication network, a method of separating best-effort communications and flow-controlled communications, comprising:

configuring one or more devices in the network to distinguish between best-effort communications and flow-controlled communications;

15 establishing a first communication channel and a second communication channel through a first portion of the network;

configuring said one or more devices to transmit said best-effort communications on said first communication channel; and

20 configuring said one or more devices to transmit said flow-controlled communications on said second communication channel.

22. A method of separating different types of communications for transmission across a single physical communication link, comprising:

25 identifying one or more types of communications to be separated from another type of communication;

for each of said one or more types of communications, establishing an associated logical channel on the physical link;

configuring a first device with a queue for each of said logical channels,  
wherein said first device coupled to the physical link;

receiving at said first device a first communication to be transmitted over  
the physical link, wherein said communication is of a first type;

5 storing said first communication in a first queue associated with a first  
logical channel, wherein said first logical channel is associated with said first type  
of communication; and

transmitting said first communication over the physical link in said first  
logical channel.

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23. The method of claim 22, further comprising:

assigning, at said first device, a first priority to said first queue associated  
with said first logical channel.

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24. The method of claim 22, further comprising:

receiving at said first device a second communication to be transmitted  
over the physical link, wherein said communication is of a second type;

transmitting said second communication over the physical link in a second  
logical channel.

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25. The method of claim 24, wherein:

said first type of communication comprises a best-effort communication;

and

said second type of communication comprises a flow-controlled

25 communication.

26. The method of claim 24, wherein:

said first type of communication comprises a connectionless communication; and

said second type of communication comprises a connection-oriented communication.

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27. A computer readable storage medium storing instructions that, when executed by a computer, cause the computer to perform a method of separating different types of communications for transmission across a single physical communication link, the method comprising:

10 identifying one or more types of communications to be separated from another type of communication;

for each of said one or more types of communications, establishing an associated logical channel on the physical link;

15 configuring a first device with a queue for each of said logical channels, wherein said first device coupled to the physical link;

receiving at said first device a first communication to be transmitted over the physical link, wherein said communication is of a first type;

20 storing said first communication in a first queue associated with a first logical channel, wherein said first logical channel is associated with said first type of communication; and

transmitting said first communication over the physical link in said first logical channel.

25 28. An apparatus for transmitting best-effort communications on a first channel and flow-controlled communications on a second channel of a communication link, comprising:

a transmitter configured to transmit electronic communications on a



communication link, wherein the communication link is configured to support multiple channels;

a first queue for storing best-effort communications prior to transmission by said transmitter;

5 a second queue for storing flow-controlled communications prior to transmission by said transmitter; and

identifying means for differentiating said best-effort communications from said flow-controlled communications

wherein said transmitter is configured to transmit said best-effort  
10 communications on a first channel of the communication link; and

wherein said transmitter is configured to transmit said flow-controlled communications on a second channel of the communication link.

29. The apparatus of claim 28, wherein said identifying means  
15 comprises a set of executable instructions for communication management.

30. The apparatus of claim 28, wherein said identifying means comprises a device driver for the apparatus.

20 31. The apparatus of claim 28, wherein said first channel and said second channel comprise distinct virtual lanes within an InfiniBand network.

32. The apparatus of claim 28, wherein said first channel and said second channel comprise distinct virtual circuits within an ATM (Asynchronous  
25 Transfer Mode) network.

33. The apparatus of claim 28, wherein said first channel and said



second channel comprise distinct classes of service in an Ethernet network.

34. The apparatus of claim 28, wherein said transmitter is configured to transmit only said best-effort communications on said first channel.

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35. A network, comprising:

a communication link;

a first channel established on said communication link; and

a second channel established on said communication link;

10 wherein each of said first channel and said second channel are configured to carry one or the other of best-effort communications and flow-control communications, but not both.

36. The network of claim 35, wherein said flow-control  
15 communications comprise a communication formatted according to a protocol that provides flow control.

37. The network of claim 35, wherein said best-effort communications  
20 comprise a communication formatted according to a protocol that does not provide flow control.

38. The network of claim 35, wherein said flow-control  
communications comprise a communication formatted according to a connection-  
oriented protocol.

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39. The network of claim 35, wherein said best-effort communications  
comprise a communication formatted according to a connectionless protocol.

40. The network of claim 35, wherein said first channel and said second comprise separate InfiniBand virtual lanes.

5 41. The network of claim 35, wherein said first channel and said second comprise separate ATM (Asynchronous Transfer Mode) virtual circuits.

42. The network of claim 35, wherein said first channel and said second comprise separate Ethernet differentiated services.

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